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ON THE DISTRIBUTION AND PERIOD OF SOJOURN IN THE BRITISH ISLANDS OF THE SPOTTED CRAKE.

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The Spotted Crake, *Porzana maruetta*, has been variously treated by writers upon British birds—as a summer migrant, arriving early in the spring and leaving late in the autumn; as a rather late arrival in spring; as a partial resident; and also as a migrant more commonly met with in autumn and winter than at any other season.

It may therefore be interesting to bring together in a short paper, for comparison, such information respecting the distribution, dates of migration, and period of residence of this bird in Britain as may be gathered from the works of some of the older writers on British Ornithology, as well as the more recent and detailed observations furnished by the various local avifaunal works now available for determining the general distribution of this bird in these islands. Further notices have been collated from periodicals, the Migration Reports, &c. To this published matter I am able to add some information derived from correspondence with several ornithologists, as well as a few notes of my own.

The Rev. L. Jenyns (now Blomefield) wrote that this bird "is usually considered as a migratory species, retiring at the approach of winter, but it is highly probable that many individuals remain with us throughout the year. It is certainly to be met

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with from early in March to the middle of November" ('Manual of British Vertebrate Animals,' 1835, p. 218).

For convenience it may be here mentioned that a Spotted Crake was seen by the late Edward Blyth in the London market in the month of January, 1834 (Yarrell, 4th ed. vol. iii. p. 144). This will be referred to later under the head of Middlesex.

Selby quotes Montagu in proof of the fact that it "is one of our earliest birds of passage in arrival, and among the latest in taking its departure." And continues, "Though not numerous, these birds are rather generally disseminated throughout England, in such localities as accord with their habits; and I have also found them in various parts of Scotland, although Montagu states that in his time, the species had not been observed further to the northward than Cumberland. . . . . By the aid of a dog accustomed to pursue these birds, I have (in the autumn, just previous to their departure) sometimes flushed as many as six in a large morass in my neighbourhood [Twizel, Northumberland], the majority of which were generally young birds of the year" ('Illustrations of British Ornithology,' 1833, vol. ii. p. 179—180).

NORTHUMBERLAND and DURHAM.—"A resident, and to some extent migratory. It occasionally breeds in the district. A nest of eggs was taken at Prestwick Carr, many years ago. . . . . A few years ago another nest of young, just hatched, was taken at the same place. . . . . And, according to Mr. W. Proctor, it bred some years ago at Framwellgate Carr, Durham" (Hancock, 'Cat. Birds Northumb. & Durham,' p. 125). See also Selby's remarks relative to the neighbourhood of Twizel, Northumberland (*ut sup.*).

CUMBERLAND.—"An extremely scarce resident species, but has certainly bred near Wedholme Flow, where several young birds were shot in 1881. . . . . Constantly observed for some years in Bigland's Bog . . . . during the entire summer months. . . . . An example in our possession, shot near Penrith, was constantly observed from November until it was shot in the following April; and a second, possibly its mate, was killed in May of the same year. Mr. J. Armstrong shot another near Monkhill Lough, in June. The Spotted Crake is most frequently shot on the spring and autumn migration. . . . . Mr. Dixon informs us that, when snipe-shooting in November, he has shot several Spotted Crakes on Cumwhitton Moss" (Macpherson and Duckworth, 'Birds of Cumberland,' p. 126—7). By way of supplement to these remarks, Mr. Macpherson has kindly sent me the following additional information about the Spotted Crake in Cumberland:—"I believe that in our mild climate on the west coast some may remain throughout the winter, as I was assured they did in a certain locality, and I have one that had done so, as I stated in the text; but of course this is the exception, even in our mild climate; the bird is chiefly an autumn visitor, its presence in spring being evidenced also before the Wild Birds Act existed. In 1889 several of these birds occurred in Cumberland; *e.g.* in August, one; September, one; October, two; while at the other end of our area, in Furness, three were shot in October. November is similarly favoured. I hear of a few every autumn, and less frequently in spring. A Spotted Crake, evidently on migration (as it was shot as soon as it alighted on the beach), was killed in 1888, on March 31st, at Silloth, and sent to me."

LANCASHIRE.—"Best known as an autumn and winter visitor, and although rare on the whole, there are few districts in which, at one time or other, specimens have not been shot. . . . . No actual nest is on record; but Mr. J. B. Hodgkinson tells me that the species used to be very common on a marsh near Preston, now drained, and that he has often seen young birds there which must have been bred close by. . . . . Lord Lilford informed the author that near Tarleton it was not uncommon in September, and Mr. H. P. Hornby is stated to have seen and shot a considerable number near St. Michael's-on-Wyre, between September and December" (Mitchell, 'Birds of Lancashire,' p. 167—68).

YORKSHIRE.—Not rare, "especially in winter; a few nesting regularly on the sedgy banks of the Hull near Beverley, and at times near York and Doncaster" (Clarke & Roebuck, 'Handbook of Yorkshire Vertebrates,' p. 65).

NOTTINGHAMSHIRE.—"The Spotted Crake has been killed in various parts of this county, and Mr. Felkin states that it has been found breeding on the Trent near Nottingham, but I have no particulars. Those which I have noted have been during their autumnal migrations" (Sterland, 'Descriptive List of the Birds of Nottinghamshire,' p. 52). Mr. Whitaker writes (*op. cit.*), "Twenty-five of these birds were shot during the autumn of 1871, in the neighbourhood of Nottingham, where they breed." This locality (still frequented by the Spotted Crake) is a low-lying, boggy tract of ground close to the town of Nottingham, adjoining the river Trent. It has been formed by subsidence of the ground, consequent upon mining operations.

Lincolnshire.—"Numerous during September and October, all over the district. I have seen a considerable number at the birdstuffers' shops, the greater proportion being birds of the year. Three, all immature, were obtained near Spurn. The Spotted Crake is known to breed in at least two localities in North Lincolnshire. We have considerable additions to the local birds in autumn" (Cordeaux, 'Naturalist,' 1889, p. 7).

Norfolk.—"Visits us regularly in spring, and, though chiefly confined to the Broad and Fen districts, is by no means uncommon between the months of March and October. . . . . Lubbock speaks of the spring arrival of this species as occurring with 'great regularity between the 12th and 20th March,' but of late years I have no record of their appearance earlier than the 21st of that month, and a female killed on the 23rd March, 1866, at Ludham, was then forward in egg" (Stevenson, 'Birds of Norfolk,' vol. ii. p. 393). This author mentions eggs taken during the first week in May (as recorded by Mr. W. R. Fisher) in the neighbourhood of Yarmouth, and that he had fresh eggs from Hickling on the 26th of that month, and had seen the young in their black down, taken on Rockland Broad, in the last week in July. He quotes a note of Messrs. Sheppard and Whitear, who write:—"We have seen a considerable number of its eggs at Yarmouth, which, as well as its young, were found in the neighbourhood of that place, and are also in possession of an egg taken from a female of this species, which was killed in the marshes below Norwich." Mr. Stevenson thinks Spotted Crakes were formerly more abundant in Norfolk than at the time he wrote (1870), for Mr. Rising informed him he had killed seven or eight in a day at Horsey, "where they are comparatively scarce at the present time." Prof. A. Newton told him that the last nest he had heard of was in 1849, near Whittlesea Mere, where the species used to abound formerly. A nest found a few years previously on the margin of a reed-bed on Walton Common, near Westacre, is also mentioned by Mr. Stevenson, who adds that the small chain of fens on the river Thet, in South-west Norfolk was also frequented by the Spotted Crake. From his notes for the last twenty years, this author found that the large majority of specimens taken to the birdstuffers were killed between the 2nd and

29th October. About the close of October he believed the greater number took their departure, but stragglers were occasionally met with in November: records on the 2nd, 9th, 16th and 30th, in different seasons, are given. Mr. Stevenson was assured by the marshmen that this Crake might at times be found in mid-winter; but one shown to him, in the flesh, on the 2nd December, 1868, was the latest he had ever known. Birds observed thus late in the year were almost invariably in immature plumage, and were most probably the result of a late hatch, and therefore unable to join the earlier migrants ('Birds of Norfolk,' vol. ii. pp. 393—395).

From the "Ornithological Notes from Norfolk" for the years 1881—1883, communicated by the late Mr. Henry Stevenson to the 'Transactions of the Norfolk and Norwich Naturalists' Society,' I extract the following notes:—

1881.—September: "An unusual number" shot in the marshes. October: "In some numbers in the Broad district." November: "Again this month I have heard of eight or ten specimens shot in the Yarmouth neighbourhood, and four near Lowestoft. I have reason to believe it still nests on the margins of our wildest and most extensive Broads."

1882.—October: A "good many" at Yarmouth.

1883.—October: One or two at Yarmouth. November: One on the 6th at Yarmouth.

Lord Lilford (under date 16th May, 1890) kindly writes:— "I have more than once met with it in East Norfolk in March; and I know that the eggs are frequently found in that district before the end of that month."

Cambridgeshire. — The Rev. L. Jenyns (now Blomefield) writes:—"I have known these birds killed in Bottisham Fen as early as the 26th March, and occasionally during the summer and autumn on to October, but not during the winter" ('Observations in Natural History,' 1846, p. 185).

Essex.—"A rare and local summer or autumn visitant. It appears to be by no means common in the county, though it seems possible, from a fact mentioned below, that it may breed on our coast. . . . . Specimens procured on the 23rd April, the 22nd August, early September, on several occasions in October (up to 28th), and in November, are recorded" (Miller Christy, 'Birds of Essex.')

Leicestershire.—"Sparingly distributed, probably breeding.

. . . . According to Harley, it was very common during the summer of 1842. . . . . Nowhere in Leicestershire was it met with in greater abundance than in the meadows and fields near the Soar, and from Loughborough to Kegworth it was plentiful. . . . ." Several occurrences are enumerated in different years, but in few cases is the season of the year mentioned. Two are recorded in October (one of them on the 17th), and another shot at Saddington Reservoir on the 15th January, 1884 (Browne, 'Vertebrate Animals of Leicestershire and Rutland,' p. 144).

NORTHAMPTONSHIRE.—Lord Lilford writes:—"Certainly not resident in the breeding season. . . . . Two were shot 19th August, 1880; two others 11th October, 1883, and one on the 23rd October, in the same year" ('Notes on the Ornithology of Northamptonshire,' reprinted from 'The Zoologist,' 1879—1886).

WARWICKSHIRE.—I have known of its occasional occurrence in autumn in the southern division of this county.

OXFORDSHIRE.—In my lately published work on the Birds of this county I have entered this species as "a spring and autumn migrant, occurring in March, and again occasionally in August, but more commonly in September and October. The 10th March, on which day in 1887, an example struck the telegraph-wires at Oxford, and came into the possession of Mr. A. H. Macpherson, is the earliest date for its arrival in spring of which I am aware; another met the same fate near Banbury on the 14th of that month in 1881. . . . . I have no note of its having been obtained later than the 19th October. . . . . There is some reason to believe that the Spotted Crake may breed in Oxfordshire, the occurrence of immature examples in August rendering the supposition most probable; among other instances an entry in Mr. Beesley's note-book, relating to one shot on the 19th of that month, in 1849, may be cited. From its skulking habits it would easily escape observation in the height of summer" ('Birds of Oxfordshire,' pp. 137, 138). The following additional instances of its occurrence in the northern part of the county during the last few years have come under my notice:—

1879.—One at Bicester, 23rd September; several in the neighbourhood of Banbury in October.

1882.—One picked up under the telegraph-wires, 29th August.

1883.—One shot at Adderbury, 25th August; another on the 26th by the Cherwell at Bodicote.

1884.—One near Banbury, 12th September; another on the 14th October.

1885.—One on the 16th October near Bodicote.

1886.—One in April near Banbury.

1888.—Several in the first half of October.

1889.—One, adult, picked up under the telegraph-wires near Banbury, 1st September; one, bird of the year, middle of September.

BERKSHIRE and BUCKINGHAMSHIRE.—"By no means a common bird, and of local habits," writes Capt. Clark Kennedy, who records a good many occurrences, and remarks:—"It usually arrives here in the beginning of April or towards the end of March, leaving us again in October." The occurrence of a specimen, shot at West Drayton, on the 2nd August, 1860, is mentioned, and of others at Monkey Island in September and October ('Birds of Berkshire and Buckinghamshire,' p. 99). In September, 1889, I examined a bird of the year which had been killed in the low-lying belt of marshy land along the Kennet valley between Kintbury and Newbury, about the middle of July in that year. This locality is an extremely likely breeding-place for the Spotted Crake, a good deal of the ground being covered with beds of reed and willow, intersected by ditches, and must be very wet at all seasons. Dr. Lamb ('Ornithologia Bercheria') writes:—"A female of this rare bird was shot at Kintbury, near Newbury, March, 1810" ('Zoologist,' 1880, p. 320).

MIDDLESEX.—Mr. J. E. Harting, in the 'Birds of Middlesex,' (pp. 204, 205), records the occurrence of several specimens of this bird in the county prior to the year 1866. Of these one was procured in the London market in January, 1834, and was in so fresh a condition as to suggest to the late Edward Blyth, who examined it, that it was very likely obtained in some marsh near London, possibly Hackney Marsh, at one time so good a locality for water birds. Another, in the collection of the late Frederick Bond, was shot at Kingsbury, and recorded by him in 'The Zoologist' for 1843. Two were killed by Mr. W. K. Heseltine at Laleham in 1858, one on Oct. 5th, the other on Nov. 3rd, on a tract of rough meadow-land, known as the Burghway, which in severe weather was often the resort of Snipe and other migratory birds. On Aug. 2nd, 1860, Mr. W. H. Power shot a Spotted Crake at West Drayton, as it was crossing the river Colne, which here divides the counties of Middlesex and Buckingham. Two others were shot at Jessop's Ait, Chiswick, in the autumn of 1862, near Stone Bridge, on the Brent, on Oct. 16th. The late John Dutton, of Hammersmith, had one in his collection which was shot at Jessop's Ait, above mentioned, on the 12th Nov. 1863, and reported two others obtained there about the same time. On the 7th Oct. 1863, two, male and female, were shot in Hackney Marsh by Mr. R. M. Presland, and on the 26th of the same month another was shot at the same place by Mr. J. A. Clark. Finally one in Mr. Harting's collection was procured near the Hyde Bridge, on the Brent, in the month of October while looking for Jack Snipe. Mr. Harting now adds the interesting fact that the Spotted Crake has been ascertained to have nested in Middlesex. Graves, the author of 'British Ornithology,' writing in 1821, observed, "The Spotted Crake is met with in greater abundance within a few miles of London than perhaps in any other part of this kingdom. We have known this bird to breed in the fields to the left of the Kent Road, called Rolls' Meadows. One of them was killed, after which they forsook the spot" (vol. i. 2nd ed. 1821).

HERTFORDSHIRE.—In the series of "Notes on Birds observed in Hertfordshire," for the years 1881—1887, communicated by the late Mr. J. E. Littleboy, of Hunton Bridge, King's Langley, to the 'Transactions of the Hertfordshire Natural History Society,' the following entries occur under the head of this species:—One killed by the telegraph-wires at Watford, October, 1881. One shot at Tring Reservoir, Sept. 1883; another in October, 1885.

WILTSHIRE.—"Not uncommon, but so retiring and timid in its nature that it escapes observation." One killed in September. Several procured in October; one near Devizes in November, 1863, and another at Melksham, December, 1879. "It is one of the earliest migrants to arrive, and one of the latest to depart. . . . . There is a record of a nest of twelve eggs having been cut out of a clover-field adjoining a marsh beside the stream at Mere, in June, 1881. One of these eggs was sent to the Editor of 'The Field,' and pronounced to be a genuine egg of *C. porzana*" (Rev. A. C. Smith, 'Birds of Wiltshire,' pp. 442, 443).

SOMERSETSHIRE.—"Whether this bird is resident or migratory may appear doubtful. There is a note in 'The Zoologist,' by the Rev. Murray A. Mathew, of his having shot two as late as the

18th November, and it makes its appearance again as early as the middle of March" (Cecil Smith, 'Birds of Somerset,' p. 440).

HEREFORDSHIRE.—"A few pairs visit the county most summers, and there is every probability that it breeds here. Four specimens have been brought to the Museum at varying intervals from April to June, during the last four years (1880—1884), which all came from small streams or marshy places in the valley of the Lugg" (Bull, 'Notes on the Birds of Herefordshire,' p. 207).

HAMPSHIRE.—The Rev. J. E. Kelsall has collected the following information:—One at Kingsley, East Hants, no date (Bell's edit. of White's 'Selborne'); one, Newton Stacey, West Hants, 1889 (Chalkley, naturalist, Winchester); several near Ringwood, April, May, September, October, and November—three in September, one in October, and two in November, 1888 (Mr. G. Corbin); one near Portsmouth, Sept. 1889. Isle of Wight: "Not yet ascertained to nest in the island, though likely enough a pair or two may linger in favourable localities. . . . . Hitherto obtained as a rare winter visitor (*sic*), or at the two periods of migration" (Mr. A. G. More, in Venables' 'Guide to the Isle of Wight'). Lord Lilford writes (*in lit.* 16th May, 1890):—"Mr. E. Hart, of Christchurch, Hants, gave me March 27th as earliest date for this year; but, if my memory serves me correctly, this is by no means the earliest date I have had from him. I am inclined to think that all the Spotted Crakes that intend to breed in our islands arrive during March." In reply to my enquiries, Mr. Hart, under date of March, 1890, writes:—"The Spotted Crake, *Porzana maruetta*, is rather common about this part of Hants. Having two rivers, consequently there are many places suitable for this bird. They arrive here towards the latter part of March, the 20th being the first entry of its occurring in this month. Towards the last week of September and the early days of October, I always find them about the rushy places in the harbour, and have flushed as many as five at this time of the year in a morning's walk. October 16th is the last entry I have on which I have killed it in this month. Occasionally some stay longer, and may perhaps remain all the winter, having killed one in January, 1863, and another December, 1869. I have frequently found their nest with eggs, and in July, 1872, I caught some young ones in down only a few days old.

Also, on June 14th, 1881, I captured some with just the feathers on wings and shoulders showing."

SUSSEX.—Arrives from the Continent about the latter end of March or early in April, and examples have at that period been occasionally taken in an exhausted state within the precincts of the town of Brighton. After a dark, stormy night, in the spring of 1841, a Spotted Crake was found alive in the churchyard of Trinity Chapel, probably attracted—like many other migratory birds which have been captured in the gardens, and even in the areas of the houses—by the long line of gas-lights which extends, almost without interruption, from Brunswick Terrace to Kemp Town. Specimens have been shot near Storrington in the autumn, and several were killed during the month of October, 1841, on Henfield Common (Knox, 'Ornithological Rambles in Sussex,' 3rd ed. p. 240). Mr. J. E. Harting writes me word that "Some years ago Henfield Common, in Sussex, was a sure find for Spotted Crake. It was more like an Irish bog than an English the common, and in places quite as treacherous. There were soft places in which you might get in almost overhead." He adds that twenty years ago he used to meet with the Spotted Crake in the marshes lying between Sidlesham and Selsea, where it might sometimes be seen in the broad dykes, swimming like a little Moorhen, nodding its head and flirting its tail. On the 5th Oct. 1872, when out snipe-shooting in the parish of Harting, in West Sussex, he flushed and shot one of these birds, which he still has preserved in his collection. It was squatting in a tuft of rushes, and would probably have been passed by undetected, had it not been found by his setter, a red Irish dog which he had broken to retrieve, and which was first-rate for Snipe and Rail. In Mr. W. Borrer's forthcoming work on the Birds of Sussex we shall doubtless find still further particulars of the occurrence of the Spotted Crake in this county.

DORSET.—"A rare visitant on migration in spring and autumn. . . . . I have notes of one shot near Weymouth, Nov. 5th, 1852; another near Wareham in September, 1868. The late Mr. Thompson sent one alive to the Zoological Society's Gardens, in the Regent's Park, which had been caught in a garden at Radipole. His son shot one at Lodmoor, near Weymouth, Sept. 28th, 1872; and one obtained in the neighbourhood of Blandford is in the collection of the Rev. J. Penny" (Mansel-Pleydell, 'Birds of

Dorset,' pp. 71, 72). Mr. E. Hart, of Christchurch, writes that he has seen the Spotted Crake in Dorset, but does not consider that it is quite so common in this county as in Hants.

Devonshire.—Montagu, in his 'Ornithological Dictionary,' writes:—"We have met with it as early as the 1st of April, and as late as the middle of October," remarking that it was rather scarce and certainly migratory. In the 'Supplement' to this work he mentions having "obtained this species as early as the 14th of March, and as late in the year as the 23rd of October in Devonshire, but never in the winter months." Two from Montagu's collection are preserved in the Natural History Museum, South Kensington. Moore, in his 'Catalogue of the Birds of South Devon,' after referring to Montagu's remarks above quoted, mentions five specimens procured in South Devon, but without giving dates or localities. Rowe also includes this bird in his 'Catalogue of the Birds of Devon,' 1863, p. 31. Mr. W. S. D'Urban, writing in 1875, remarks that the Spotted Crake is sometimes met with in South Devon in September, and that the late Mr. F. W. Ross once had as many as six freshly-killed specimens in his possession at one time, killed in September (Sketch Nat. Hist. S. Devon, in the 'Handbook of S. Devon and Dartmoor'). In the latest Devonshire list by Mr. Edward Parfitt (1876), the Spotted Crake is included as "not common; but specimens occasionally met with. One was found on the Tavistock Railway last year (1875) dead, probably killed by flying against the telegraph-wires, and three others were procured in the marshes near Newton."

Cornwall.—"Sportsmen who traverse the snipe-marshes and wet moors often come across this bird *in winter*, and in some years it is not uncommon at this season. . . . . I know of no instance of its remaining with us during the nesting-season" (Rodd's 'Birds of Cornwall,' p. 135). He adds (p. 290) that on the 4th October, 1870, a Spotted Crake was shot at St. Mary's, Scilly, where this bird is occasionally met with in autumn and winter (p. 302).

In Wales the Spotted Crake has been noticed in the following counties:—

Breconshire.—"A regular visitant, but very local. . . . On the Trath, a large bog on Mynydd Illtyd, near Brecon, it is to be found every year; but the favourite spot for them in this county is the large bog near Onllwyn, and here in the early part of the shooting season I invariably flush several, and many breed in this place. I one day flushed six and killed four, three of which were birds of the year. The station-master who was then at Onllwyn informed me there were two broods of them hatched in that part of the bog close to the station that year. . . . . I have never seen one after October. . . . . It has been killed on some of the bogs near Cray, and its nest and eggs have been taken on the Trath near Brecon" (Phillips, 'Birds of Breconshire,' Zool. 1882, pp. 219-20).

GLAMORGANSHIRE.— Mr. Dillwyn Llewellyn told Mr. Phillips (*l. c.*) that in the fall of the year he could at any time move three or four in some bogs in this county.

CAERMARTHENSHIRE.—Montagu received one or more specimens from this county ('Ornithological Dictionary').

MERIONETHSHIRE.—"A few shot most seasons" in the Barmouth district (Rawlings, 'List of the Birds of the Barmouth District,' p. 6).

For the greater portion of the following records of the Spotted Crake in Scotland I am indebted to the Rev. H. A. Macpherson :—

The late Mr. R. Gray wrote, in 1871, "So far as I have observed, the Spotted Crake is a very uncommon species in the western counties; it is, however, more numerously distributed throughout the eastern counties, extending from Orkney to Berwickshire." After referring to Mr. A. G. More *re* the breeding of this species in Scotland, he adds :—"As the birds have been repeatedly taken in the breeding season in Banffshire, Fife, East Lothian, and Berwick, it is not unreasonable to infer that the species nests in these counties also." He also says that it appears early,—*e. g.* in April,—and has been shot in November, December, and even January (Gray, 'Birds of the West of Scotland,' p. 333).

ELGIN.—Nest taken in this county (Yarrell, 4th ed. vol. iii. p. 144).

PERTH.—Nest taken in this county (Yarrell, *ut sup.*).

BERWICKSHIRE.—One adult shot, 18th Oct. 1873; one shot 19th Oct. 1868 (B. N. C. 1873—5, p. 134).

MIDLOTHIAN.—One obtained March, 1864 (Proc. N. H. S. Glasgow, vol. i. p. 55).

AYRSHIRE.—One shot 3rd Nov. 1875 (ib. vol. iii. p. 197).

ABERDEEN.—One shot at the mouth of the river Ythan, September, 1875 (ib. vol. iv. p. 250). Nest taken in this county (Yarrell, *ut sup.*).

Loch Lomond.—Two shot Sept. 1877 (Proc. Ryl. Phys. Soc. vol. iv. p. 207). Two shot, 10th Oct. 1881 (Proc. N. H. Glasg. vol. v. p. 211).

Lanarkshire.—One picked up at Possil Point, near Glasgow, 1st Sept. 1889 ('Science Gossip,' Nov. 1889).

Dumbartonshire. — One 7th Oct. 1879 (Proc. N. H. Soc. Glasg. vol. iv. p. 17).

Recorded also, but without date, from Ayrshire, Ross-shire, Strathbeg; as occurring in autumn in Dumfriesshire, on Tayside, near Tarbut. Mr. Lumsden says:—"Is seldom met with in Scotland. . . . . In Scotland its nest has been taken only on one or two occasions" (Proc. N. H. Soc. Glasgow, vol. iii. p. 197).

A young male Spotted Crake was found dead at Possil, near Glasgow on the 1st Sept. 1889, as recorded by Mr. J. M. Campbell, Zool. 1889, p. 392.

It is not included by Mr. Macpherson in his account of the Birds of Skye (Proc. Roy. Phys. Soc.), nor by Messrs. Harvie-Brown and Buckley, in their 'Vertebrate Fauna of the Outer Hebrides.' Neither Dunn, in his 'Ornithologists' Guide to the Islands of Orkney and Shetland' (1837), nor Saxby, in his 'Birds of Shetland,' include it in the avifauna of those islands; but, according to Messrs. Baikie and Heddle (Hist. Nat. Orcad. p. 69), it has been observed, though rarely, on Sanday, and Mr. R. Gray also mentions its occurrence in Orkney (*ut sup.*); while, in 'The Zoologist' (1882, p. 21), there is a record of one shot on Fetlar, an islet adjoining Unst, the northernmost of the Shetlands, on the 25th October, 1881.

Mr. Howard Saunders, summing up the range of the Spotted Crake in Scotland, observes that it has nested on the east side of Scotland "as far north as Elgin, while on migration it has occurred in the Orkneys and twice in the Shetlands (in October); on the west it has bred in Dumfriesshire, but has not yet been recorded north of the Clyde" ('Illustrated Manual of British Birds,' p. 495).

In Ireland the Spotted Crake is said to be a very rare visitor, usually found in autumn (A. G. More, 'List of Irish Birds,' p. 18). The nest, however, has been found in Roscommon, where the bird is well known as the Little Crake (Watters, 'Birds of Ireland,'

p. 182), and probably also in Kerry (Thompson). In Harvey's 'Fauna of Cork,' the bird is said to be perhaps more common than is generally supposed. Messrs. Parker (both ornithologists as well as sportsmen) have not unfrequently met with it for several years past. It has occurred also to Mr. Robert Davis in Tipperary (*op. cit.*, p. 13). A bird of this species was shot near Portrush on the 15th October, 1888, as noted by Mr. Harting.

Mr. Howard Saunders, in his 'Illustrated Manual of British Birds,' p. 495, writes:—"It usually appears in May and departs in October, but birds have been known to remain till mid-winter, and the occurrences recorded from Norfolk in March were more probably due to individuals which had not left the country than to early arrivals."

But unless we are prepared to admit that a very considerable number of these birds pass the winter in this country (and, except in one or two localities, this supposition is not borne out by the published accounts of local observers), and that these winter residents begin an internal migration of no small extent in March and April, it is difficult (looking at the facts quoted in this paper) to come to any other conclusion than that the spring arrival of the Spotted Crake in England habitually takes place at a considerably earlier date than that indicated by Mr. Saunders in the work quoted above.

Indeed the very fact of the Spotted Crake remaining with us late into the autumn would make us expect it to be an early migrant in spring. With some exceptions, it seems to be a rule that those birds which remain late in autumn arrive early in spring; and there is no question about the fact of the Spotted Crake habitually remaining here until nearly, or quite, the end of October, and often still later. The Wheatear and Chiffchaff both arrive in March, and I have seen them in October. The Redstart and Blackcap, arriving a little later, both remain until the end of September. On the other hand, the Swift, Spotted Flycatcher, and Turtle Dove, which are all late arrivals, have generally left by the middle of that month (in the case of the Swift, nearly a month earlier); while the Corn Crake, which is seldom heard before May, although it probably always reaches us in April, is rarely met with (putting on one side the cases in which it has remained all winter) after the first fortnight of partridge-shooting —here in Oxon at least.

Bearing strongly upon this point is the date given by Prof. Giglioli of its spring arrival in Italy ('Avifauna Italica,' 1886, p. 350), in a passage which may be thus translated:—"It comes among us in March, and sometimes sooner, ... and leaves us at the end of October or in November. . . . . One shot as late as the 29th December (1884) in the province of Venice."

At least three-fourths of the Spotted Crakes noticed in Oxfordshire occur at the periods of migration. I have notes of examples picked up dead under the telegraph-wires on the 14th March, 1881, and the 10th March, 1887, and have known of the occurrence of others in April. A considerable proportion of the specimens procured here are killed in this manner; these it is pretty certain must have been on migration at the time; and, from the absence of any records of the birds striking the wires in May, it is reasonable to suppose that no immigration to Oxfordshire takes place during that month. It would be interesting if ornithologists would place upon record the dates of any spring arrivals of the Spotted Crake which have come under their notice, for on looking through the published accounts and notices of the bird the small amount of actual evidence upon this point is remarkable.

In searching through the 'Reports on Migration of Birds' by the Migration Committee, the paucity of entries relating to *P. maruetta* is remarkable. In the five reports I have by me (1882—1886) there is only one spring note, and that is untrustworthy. Altogether there are only four entries for Great Britain and Ireland—*viz.*, 1884, Redcar, 2nd Sept., one; 1885, Spurn, 23rd Oct., one; Rathlin Island, May 12th, one "Spotted Crake," June 30th, another seen. But as this species is not included in the "List of Birds noticed" on the Irish coast, it is evident that the reporters considered these two last records more than doubtful.

Mr. Howard Saunders writes of it as "visiting Heligoland on both migrations, especially in that of May." But I do not find any May occurrences entered in Herr Gätke's "Ornithological Almanack," included in the Migration Committee's Report for 1885, the only entry relating to *P. maruetta* being on Aug. 22nd, "some." In the same observer's "Bird Notes from Heligoland for the year 1886" ('Naturalist,' reprint, No. II.) there is no mention at all of the Spotted Crake, so that it certainly does not occur there very numerously or very regularly. Even if there is an extensive May immigration of Spotted Crakes at Heligoland, it does not follow as a matter of course that we should have a simultaneous immigration to our shores. In 1886 the Corn Crake occurred several times in Heligoland in the latter half of May—long after it had appeared and settled down in Great Britain.

Conclusion.—To sum up the evidence previously adduced, it seems clear that—

(i). The Spotted Crake is an early spring migrant to this country, arriving from the second week in March onwards.

(ii). It probably breeds in every county of England and Wales which affords a sufficiency of swampy or boggy ground with plenty of cover, or of lakes and rivers, the banks and edges of which are overgrown with reeds, rushes, and rank vegetation. It becomes much more uncommon in Scotland, where at present it has been recorded as breeding on the east side only, although a good many instances of its occurrence on the west side in autumn are on record. On the mainland it has been recorded as far north as Ross-shire, and stragglers have reached the Orkneys and Shetlands; but in the Hebrides it has not been noticed.

(iii). It habitually remains in this country up to the end of October, and often until the beginning of November.

(iv). In some parts, chiefly the west and south of England (*e.g.* Cumberland, Lancashire, Hampshire, Cornwall), it frequently, if not habitually, remains during the whole winter; while occasional occurrences at that season have been noticed in many localities.

When we consider the shy nature and skulking habits of the Spotted Crake, and the difficulty with which it is induced to fly, also the nature of the localities it frequents, it seems probable that these birds are far more abundant in England than is generally supposed. Who indeed, unless assisted by one or two of the best working dogs, could hope to see anything of the Spotted Crake in an ordinary well-grown osier-bed or willow-holt, or along the reedy margins of a slow-flowing river? To say nothing of the impenetrable swamps it often frequents, I know that along many of our North Oxfordshire streams there are spots (worn-out osier-beds and old plantations) in every way adapted to the Spotted Crake's requirements, but from which if they contained a dozen birds, it would be almost hopeless to attempt to flush them. The Cherwell itself, with its bed often choked up with bur-reeds, rushes and water-lilies, might harbour many pairs. Yet it is only at migration time that we hear anything of the Spotted Crake; and as Mr. Harting, in a recent letter to me, writes:—"The reason we so seldom see this bird is that it seeks safety in running instead of flying (unless suddenly found in the open), and its running powers are superior to those of the Moorhen."

A COMMENTARY ON SIR JOHN SEBRIGHT'S OBSERVATIONS UPON HAWKING.

By the Editor.

Amongst the scarcer English treatises on Falconry may be included 'Observations upon Hawking, by Sir John Saunders Sebright, Bart., M.P., describing the mode of breaking and managing the several kinds of Hawks used in Falconry. London: printed for J. Harding, 32, St. James's Street. 1826.'

This thin octavo volume of only 64 pages possesses the merit of having been written from the personal experience of the author, who had the further advantage of getting his MS. revised by his friend John Dowson Downes, of Old Gunton Hall, who was one of the leading falconers of his day, and who, in conjunction with Col. Wilson, of Didlington (afterwards Lord Berners), Col. Thornton, of Thornville Royal, and George, Earl of Orford, did much to encourage and maintain this time-honoured sport in England during the first quarter of the present century.

Through the courtesy of Messrs. Jarrold & Sons, the well-known booksellers of Norwich, I have lately had the pleasure of inspecting the original MS. of Sir John Sebright's work, and a careful examination of it and comparison with the printed volume has resulted in the following notes, which it is thought are of sufficient interest to warrant their publication. The MS. is contained in three white copy-books without covers, written on one side only (the left), each book having about twenty-two such pages, which are numbered. It appears to have been fairly copied out by an amanuensis, submitted to Mr. John Dawson Downes, of Old Gunton Hall, who made notes and suggestions on the right-hand pages, and was then corrected by the author in red ink, by the light of these suggestions, some of which were adopted by him.

The following notes by Downes have not been printed by Sebright, and certainly seem worthy of being rescued from oblivion. The first of these relates to the breeding of the Peregrine Falcon in Hunstanton Cliffs, Norfolk:—

(1). "The late Nicholas Styleman, Esq., of Snettisham, in Norfolk, in reply to my inquiry of how long had the Hawks been known to breed in the cliffs of Hunstanton, in Norfolk, informed me for more than a century. This proves, in the case of one dying, the other finds a mate, and returns to the same eyrie, although the young birds should be taken year after year, as they had then been for twenty years. The last eyrie there was about eight years since."

Assuming this note to have been penned during the year in which the book was printed (1826), the date of the last eyrie at Hunstanton would be 1818.*

(2). Downes remarked that eyesses should be fed *twice* a day, using the voice in going to feed them, as when luring. Sebright wrote, "the longer they can be kept at hack, as this state of liberty is called, the better will they ultimately be." On this Downes observed, "dele *at Heck;* it is not so called until after the birds have been taken up and trained."

(3). Sebright wrote (MS. p. 6):—"I have seen some excellent Hawks that were made so tame *at Hack* as to feed on the falconer's fist. It is a practice, however, that I cannot approve. Eyesses are not the better for being very tame. The usual way of feeding them is to throw the meat to the distance of a few yards, and to allow them to carry it away; but I think it much better to fasten it to the ground, and by thus using them to feed near the falconer they will be less disposed to carry—that is, fly—away with the game, a fault to which all Hawks are more or less inclined." On this Downes wrote:—"I have never seen meat thrown to the Hawks and to allow them to carry it away. Till taken up their meat should be cut in pieces, and given to them in a plate; they should be called as when luring, and they will readily come from any distance within hearing. They should take pieces from the hand, and allow themselves to be touched while feeding; if they are highly fed there is no fear of their becoming too tame before taking up. This mischief arises from making them too sharp in their lurings and first flyings. Two or three times a week, till their feathers are well up, raw egg should be mixed with their meat; this makes the feathers broad and strong: pinching them a day produces hunger traces."

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* In the Trans. Norf. Nat. Society, vol. iv. 1888—89, p. 658, Mr. T. J. Mann has printed an interesting table from an old note-book in the handwriting of Sir Hamon L'Estrange, of Hunstanton, Knt., showing what Hawks were taken by him from Hunstanton Cliff from 1604 to 1653.

(4). On making a Hawk used to the hood Downes gave the following hint (MS. p. 10) about drenching with cold water to make a bating Hawk sit quiet, a plan I saw practised by the Dutch falconers at Valkenswaard:—"The eyess Hawks, after they feed readily on the hand, are to be made for the hood. This is done by brailing the wing, and making them quite wet by letting water run on to them, splashing them from a whisp of hay or grass; this makes them still. They are to be kept upon the hand till dry, hooding and unhooding very frequently, and brushing them with a feather. This is to be repeated two or three days if necessary, till they stand for the hood. They are not fed at these hoodings. To be done in the morning that they may be dry by night. After they have been made to the hood, then to have something at all times given to them when hooded." This hint Sebright adopted and introduced in his book.

(5). Downes thus describes the *lure* used in his day (MS. p. 12):—"The *lure* is a forked piece of wood covered with tow, afterwards with linen, and the wings of birds, and heavy enough to prevent her flying away with it." He added (p. 13):—"It is not mentioned that the lurer is to halloo at the same time that he swings the lure." Sebright added this.

(6). Treating of Partridge-hawking, Sebright wrote (MS. p. 15), that the Hawk, on "being unhooded and cast off, would, *if a good bird,* mount to a considerable height." Downes suggested, "*if in order*" (the technical term for being right), but Sebright preferred his expression and retained it.

(7). On taking up a Hawk after killing a Partridge (after Sebright's words "by kneeling down and extending one's arm gently one may get hold of the Partridge"), Downes wrote:—"Which is to be artfully covered by the hand holding some reward which will be accepted by the Hawk, and the Partridge secretly taken away, and the Hawk taken up and rewarded"—an important hint to prevent a Hawk from carrying; yet Sebright has not printed it.

(8). "When the Hawk," says Sebright (p. 37, MS. p. 31), "has learnt to come well to the lure, a live Pigeon is to be given him from the hand; one is then to be thrown up to him in a creance, and, if he behaves well in these trials, he may be trusted at large to fly a Pigeon whose flight has been shortened." Downes adds, with a view to Heron-hawking, "after Pigeon give trains of a hen, then of a cock—a light colour is preferred—then of a Heron." Sebright, however, does not suggest these stages in the training.

(9). Snaring Herons on the nest (p. 38), Downes wrote:—"This is done at sundown; the string is led down wind of the tree; they soon return to the nest at this time, and are not so curious in observing anything that is done in it (MS. p. 32) as they would in the open day."

(10). Under the head of Icelander (MS. p. 38), Downes wrote:—"The Icelander and the Gyrfalcon are not varieties of the same species. The Icelander exceeds the Gyrfalcon considerably in size and in length of wing. The Gyrfalcon has the longest train and the shortest wings of all the Hawks called long-winged—the wings are considerably shorter than the train—and is about as much smaller than the Icelander as the slight Falcon [Peregrine] is smaller than the Gyrfalcon."

(11). Referring to the use of the Eagle Owl for attracting the Kite, Downes wrote (MS. p. 39), "This is sometimes done for Rooks for slight Falcons."

(12). Commenting upon Sebright's remark that "the Icelander and the Gyrfalcon are managed very much in the same way as the slight Falcon," Downes adds (p. 39, MS.); "but the Gyrfalcon is a much harder bird to manage than the Icelander."

(13). Opposite the paragraph in which the mode of taking Goshawks is described (MS. p. 41), Downes has written:—"Goshawks are never flown *at Heck* when taken [from] the nest; they are allowed to fly like slight Falcons [until] they begin to prey for themselves; they are then taken up: this is not called *flying at Heck*. The Goshawks brought here are all taken after [they] have begun to prey for themselves by a Hoop-net. They are rarely taken out of the nest."

(14). On the subject of "weathering" (MS. p. 55), Downes observes:—"Passage Hawks are weathered by pegging them down by their leash near a small hillock covered with a flag of grass, giving a mouthful or two, and unhooding them, walking close before them backward and forward all the time. They are sometimes set upon these hillocks in their hoods to weather."

(15). The "cage" is thus described by Downes (MS. p. 58):—"The *cage* is 4½ ft. in length and 2 ft. in width. Instead of canvas stretched across, slight rods of hazel or elm are placed across each end reaching 18 in., leaving 20 in. for the man; the rods prevent the Hawks from dropping down in the inside when they bate. The legs are on the sides, 13 in. from the corners; at the corners they would be in the way and hurt the birds."

The printed treatise ends with the statement that the "several instruments used in falconry are well represented in the plates of the French 'Encyclopædia,' printed in 1751." The MS., however, contains this additional remark (p. 59):—"This is the common way of breaking the eyess, but I am of opinion that it may be better done, and certainly with much less trouble, by accustoming him to feed upon the lure when he is flying *at hack;* he would soon learn to follow it when swung round in the air. The falconer might kneel down to him when he is feeding upon the lure, and give him food from the hand. A few live Partridges should be thrown up to the Hawk just before the commencement of the season, and he should be allowed to eat them close to the falconer. I have no doubt but by this treatment a young Hawk would be fit for use as soon as he was taken up. Nothing would remain to be done but to accustom him to stand to be hooded."

This passage has been introduced at p. 19 of the printed treatise, and on the next page the following paragraph (slightly altered), which is written on the back of p. 58 of the MS.:—"If young birds are fed at daybreak they may be kept long in a state of liberty before they will prey for themselves; for they have no inclination to pursue game when not impelled by hunger."

On the last page of the MS. is written in pencil:—"This manuscript of Sir John Saunders Sebright's 'Observations upon Hawking' was given to me by Sir John Sebright, Bt., at Beechwood, on Thursday, the 25th of September, 1828.—J. D. Downes."

ON THE SUPPOSED SELECTIVE ACTION OF BEES ON FLOWERS.

By G. W. Bulman, M.A., B. Sc.

The following illustrations of the bee's taste with regard to flowers, from my own experience, tend to show that these insects do not exhibit, as has been supposed, that decided partiality for blue, nor that nice discrimination of form necessary to enable them to develop a race of blue flowers specially adapted to them in shape by their selective action. On a patch of mingled blue and white Canterbury bells I noted to which colour the bees went first as follows:—

(1). A humble bee went first to a faded white flower, then to other white ones. After thus spending a long time on a few flowers, it went to blue, and then returned to white. A single blue flower was then visited, and it came back to white.

(2). A hive bee visited several white flowers; went off without going to blue.

(3). A humble bee visited several white flowers, and flew off to another patch of white, without going to blue.

(4). A humble bee visited two white flowers, and then flew off.

(5). A hive bee; white.

(6). A hive bee; white.

(7). A humble bee; white.

(8). A hive bee; white, then one blue flower, and back to white.

(9). A small wild bee; three or four blue flowers, then white.

(10). A humble bee; three blue flowers, and then flew off.

(11). A hive bee; white, and flew off to adjacent patch of white.

(12). A hive bee; five white flowers, and off to adjacent patch of white.

(13). A hive bee; four or five blue, then white.

Thus in 13 instances 10 bees, on coming to the mingled blue and white flowers, went first to the white, and only 3 went first to the blue. Of the latter one restricted itself to blue, and of the former a few confined themselves to white, that is to say, so far as my observation of them extended. Many of them passed from blue to white, and from white to blue. From this I infer that these bees do not prefer blue flowers.

A few days later I made some further observations at this same spot, but this time I have only the record of two bees. The first came to white flowers, of which it visited a large number; then it took one blue flower, and came back to white. The second came to blue, of which it visited a few, and then went to white. The two together then paid a few visits to white flowers; then one of them flew off to an adjacent plant of white; the other paid a few visits to blue, and then went back to white. Both were hive bees.

I have often observed that bees go from one colour to another during their journeys with seeming indifference. Their habits with regard to different colours of the same species growing together may be observed in almost any garden. Thus nearly every morning for a time I watched them on a little clump of Cistus (*Helianthemum vulgare*) where red, yellow, and white flowers were growing together; they would pass from one colour to another in every possible order. And on clumps of differently coloured—pink, white, and blue—garden hyacinths, growing together, I have not been able to detect a preference for any one of these colours. I have also seen them pass from white to blue, and from blue to white, on patches of *Myosotis*. I have the record of the actual order in which the two colours were taken by certain bees one day last May. Two of these are given below. The letters B. and W. refer to blue and white flowers respectively, and each indicates a visit to a single inflorescence, and may mean from one to three or more flowers:—

1. W. W. W. B. B. B. W. W. W. W. W. W. W. W. W. W. W. W. W. W. W. B. W. W. W. B. W. B. B. B. W. W. W. W. W. B. B. B. W.

2. B. W. B. W. B. B. W. B. W. B. B. B. B. B. B. B. B. B. B. B. W. W. B. W. B. B. B. B. B. W. B. W. W. B. B. B. B. B. B. W. B. B. W. B. B. W. B. B. W. W. W. B. W. W. B. W. B. W.

And I find that Darwin has noticed this same indifference to colours in varieties of the same species. In his 'Cross- and Self-fertilisation of Plants,' he writes:—"Humble and hive bees are good botanists, for they know that varieties may differ widely in the colour by their flowers, and yet belong to the same species. I have repeatedly seen humble bees flying straight from a plant of the ordinary red *Dictamnus fraxinella* to a white variety; and from one to another very differently coloured variety of *Delphinium* *consolidum* and of *Primula veris*; from a dark purple to a bright yellow variety of *Viola tricolor*; and with two species of *Papaver*, from one variety to another which differed much in colour" (p. 416).

Having the colour blue specially in mind, I have made some observations on bees visiting lavender flowers. Surely, if they *prefer* blue, they will, on leaving a bush of lavender, seek out another or some other blue flower. During these observations a good many bees escaped my notice on leaving the lavender, but I have been able to note in the case of the following the flowers they next visited:—

(1). From lavender to *Geranium Robertianum*.

(2). From lavender to another bed of same.

(3). From lavender to *Geranium Robertianum*, and then to *Stachys sylvestris*.

(4). From lavender to *Leycesteria formosa* (white flowers).

(5). From lavender to *Epilobium montanum*, and then, after one visit, back to lavender.

(6). From lavender to snapdragon, of which it tried several flowers unsuccessfully, and then to *Stachys sylvestris*.

(7). From lavender to evening primrose (yellow).

(8). From lavender to *Geranium Robertianum*.

Thus, out of these eight cases, seven left the lavender for flowers of another colour, and one only for another patch of lavender. One of the seven returned to the lavender after visiting one pink flower.

On another occasion I watched some bees which were visiting in large numbers some blue campanulas, which grew near a bush of white *Syringa* in flower. During the few minutes I watched them six passed from blue *Campanula* to white *Syringa*, and probably many passed in the other direction; but I only noted those going from the *Campanula*.

This changing from species to species is important, apart from the question of colour. There is a more or less vaguely received idea that bees are rather constant to the flowers they visit; that they usually keep to one species during a single journey. My observations lead me to conclude that this is far less the case than is usually supposed, and certainly much less than required to enable them to differentiate a new species by their selective action.

Since first noticing a few instances—which I set down as chance exceptions to the rule—I have very frequently seen examples of the bee's inconstancy. I scarcely ever watch them now for more than a few moments without seeing some illustrations of it. As an extreme case I may cite a bee which made eleven changes for twenty-seven flowers visited. The following are typical examples, and were noted during about half-an-hour's observation in a garden. I could give many such from my note-book:—

(1). A bee goes from *Veronica Buxbaumi* to *Stellaria media*.

(2). Another goes from *Ranunculus ficaria* to *Scilla verna*, and back to *R. ficaria*.

(3). Another goes from *Veronica Buxbaumi* to *Stellaria media*, and back to *V. Buxbaumi*.

(4). Another goes from *Ranunculus ficaria* to *Scilla verna*.

May we not infer that if the bee of to-day thus frequently passes from species to species, its ancestors would also—and even much more so—pass from variety to variety in time past? And if so, what becomes of the incipient species?

There is a passage in Darwin's 'Cross- and Self-fertilisation of Plants' which indicates very clearly what the bee is expected to do in making permanent the "incipient species," and which will help us to an answer of the above question. I allude to his remarks on that variety of *Mimulus luteus* which appeared in the course of the experiments on cross- and self-fertilisation with that plant:—

"In the third and fourth generations of *Mimulus luteus*, a tall variety, often alluded to, having large white flowers, blotched with crimson, appeared amongst both the intercrossed and self-fertilised plants. It prevailed in all the later self-fertilised generations to the exclusion of every other variety, and transmitted its characters faithfully, but disappeared from the intercrossed plants, owing, no doubt, to their characters being repeatedly blended by crossing."

Remembering that such variations as these are those upon which the bee is supposed to have exerted its selective influence, we see exactly what is required of it. These varieties must be preserved from intercrossing, and the bee can only do this by temporarily restricting itself to them. But this is not all. Darwin has expressed the belief that even if individuals of the variety had been crossed in the earlier generations it would have been lost:—

"Florists may learn from the four cases which have been fully described that they have the power of fixing each fleeting variety of colour, if they will fertilise the flowers of the desired kind with their own pollen for half-a-dozen generations, and grow the seedlings under the same conditions. But a cross with any other individual of the same variety must be carefully prevented, as each has its own peculiar constitution."

The contrast between the bee of nature and the bee required to give permanence to an incipient species is obvious. And, as far as my observations go, there are no blue flowers more frequently visited by bees than are many of other colours,—white, yellow, greenish, pink, &c. Indeed, some uncompromisingly green flowers seem to be rather favourites, *e.g.*, plane tree, red currant, and raspberry.

"The flowers of a species of *Trianosperma* in South Brazil are visited, according to Fritz Müller, very abundantly all day long by *Apis mellifica* and species of *Melipona*, although they are scentless, greenish, quite inconspicuous, and to a great extent hidden by foliage. If the bees of to-day, in the midst of flowers of every hue, are content at times to take their honey from green flowers, is it reasonable to suppose that the bee of former ages would neglect them?"* Moreover, there are some bright blue flowers which they do not visit frequently, such as periwinkle, *Lobelia*, and hairbell.

With regard to the periwinkle, the bee is apparently somewhat erratic. H. Müller, for example, states that he has seen *Vinca minor* abundantly visited by insects, and gives a list which includes seven species of bees. But he also informs us that other well-known observers—Sprengel, Darwin, Delphino, and Hildebrande—seem never to have seen any insects upon it but thrips. And on *Vinca major*—which differs from *V. minor* chiefly in size—he has once seen *Bombus agrorum!* For my own part, I think I have seen bees on the periwinkle on one or two occasions.

With regard to *Lobelia*, the bee—so far as my observations go—is extremely irregular. I watched them for several years without seeing any on this flower. Then I saw a few isolated examples, and this year, on two occasions, I have seen the flower abundantly visited. I believe Darwin has somewhere noted the same extreme capriciousness of the bee with regard to *Lobelia.*

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* H. Müller, 'Fertilisation of Flowers.'

As to the hairbell, I can distinctly remember once seeing a bee visiting the flower; but I fancy Müller has a fair list of species for it. And I can quote poetical authority for the fact that it is visited, for Keats writes of—

> "A bee bustling
> Down in the blue-bells." *

I have paid special attention to the hairbells of late, but have been very unsuccessful in finding bees in its flowers, although I have observed plenty of small black flies.

And I have seen bees visiting flowers which had lost their petals, and had only a green calyx surrounding their essential organs. On one occasion, while watching a patch of *Geranium Phæum,* I counted seventeen visits to flowers without petals in the course of a short period. And I find that Darwin has noticed the same fact with regard to this flower. I have also seen petal-less flowers of *Helianthemum vulgare, Geranium pratense, Rubus fruticosus,* and garden sage visited by bees.

Do such facts indicate that bees would select from a race of green flowers those which showed a slight tendency to other colours? And it may be further asked, could any race of insects afford—apart altogether from the question of taste—to restrict themselves to the few flowers varying in a given direction? At first there would be—according to the theory—only a few flowers differently tinted among the original green, and these could not supply sufficient honey of themselves for the bees, and those not so varying would have to be visited also, and so receive similar advantages.

Summing up these few observations, the result is emphatically against the popular theory of the bee's selective action on flowers.

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* We doubt whether Keats intended to apply this name to the hairbell. It is commonly bestowed on *Scilla nutans,* from the bell shape and bright blue colour of the flower; and in Scotland is applied to *Campanula rotundifolia.* At any rate, Keats' poetical allusion here is of no scientific value.—ED.

MEMOIR OF THE LATE CECIL SMITH, J.P., F.Z.S.

By the unexpected and somewhat sudden death of Mr. Cecil Smith, of Lydeard House, Bishop's Lydeard, near Taunton, 'The Zoologist' has lost an old and valued contributor, and the ranks of British ornithologists a most useful ally in the West of England.

The deceased naturalist had gone to Guernsey for his health, and for a short time seemed to improve, but unfortunately he caught a chill, which aggravated some previously existing form of lung disease, and terminated fatally almost before any serious danger was apprehended.

Mr. Cecil Smith was born at Bishop's Lydeard in May, 1826, and consequently was in his sixty-fourth year at the time of his death. He was educated at Trinity College, Cambridge, where in 1848 he took his B.A. degree. In 1852 he was called to the Bar, and practised on the Western Circuit until 1861, when on the death of his father he withdrew from the profession, and retired to his Somersetshire home, where, ever since, he has lived the life of an English country gentleman.

Always fond of Natural History, and especially devoted to Ornithology, Mr. Cecil Smith spent some years in collecting information about the birds of his county, an account of which he published in 1869, under the title of 'The Birds of Somersetshire.' Having married a Guernsey lady, Miss Carey, he paid occasional and prolonged visits to that island, and amused himself by noting the occurrence there of every species of bird he could see, or hear of on good authority. What was at first a mere list became gradually filled out with details, until at length, in 1879, he published a second volume entitled 'The Birds of Guernsey and the neighbouring Islands, Alderney, Sark, Jethou and Herm,' which was especially useful to ornithologists as being the first really good account of the birds of the Channel Islands which had then appeared. It was reviewed in 'The Zoologist' for 1879, p. 387.

From 1863, after he had settled down to the real enjoyment of a country life, Mr. Cecil Smith was a constant reader of this Journal, to which he gradually became a pretty frequent contributor. Looking through the Index to Authors' names from that year to 1889, we find him credited with no less than ninety-two communications, none of them of great length, nor perhaps of great importance from a scientific point of view; but most of them certainly useful as recording facts, chiefly ornithological, ascertained by a careful and competent observer.

The following is a list of them in chronological order:—

1863.—Summer Birds at Taunton, p. 8816.

1864.—Food of Rooks, pp. 8885, 9043. Little Auk in Somersetshire, p. 8891. Egyptian Goose and Great Grey Shrike in Somersetshire, p. 9348.

1865.—List of Birds in the parish of Bishop's Lydeard, p. 9794. Crane at Stalford, p. 9848.

1866.—Black Tern in Somersetshire, p. 272. Birds observed in Channel Islands, exclusive of Jersey, p. 447.

1867.—Purple Sandpiper, Little Gull, and Fulmar Petrel on S. Coast Devon, p. 562. Red-throated Diver and Norfolk Plover in Somerset and Devon, p. 760. Lesser Tern at Taunton; Sandwich Tern and Snow Bunting at Exmouth, p. 832.

1868.—Curious variety of House Martin; Late appearance of the Swallow, p. 1058. Long-tailed Duck at Exmouth, p. 1059. Black-tailed Godwit in Somerset, p. 1178. Chough in Somerset, p. 1219. Lesser Tern in Devonshire; Black Tern in Somerset, p. 1378.

1869.—Common Crossbill near Taunton, p. 1514. Ornithological Notes from South Devon, p. 1845. Robin and Wigeon breeding in confinement, p. 1865. [Nest of Wigeon in mowing grass; five eggs laid, but addled.]

1870.—Robin eating Ladybirds, p. 1981. Fulmar Petrel, Little Auk, and Grey Phalarope in Somerset, p. 1982. White's Thrush in Somerset, p. 2018. Ruff in Somersetshire, p. 2103. Red-necked Grebe at Teignmouth, p. 2106. Grey Phalarope at Bishop's Lydeard, p. 2385. Little Crake in Somerset, p. 2386. Schinz's Sandpiper in North Devon; sternum of Schinz's Sandpiper, p. 2409. Grey Phalaropes in Somerset, p. 2410.

1871.—Bird baiting, p. 2438. Wood Sandpiper in Somerset, p. 2441. Grey Phalarope near Taunton, p. 2442. Great Bustards in Devonshire, p. 2475. Iceland Gull in Somerset, p. 2488. Bittern in Somerset, p. 2522. Canada Goose, p. 2523. Red-necked Grebe and Bittern in Somerset, p. 2563. White's Thrush in Somerset, p. 2607. The flock of Bustards; American Bittern in Guernsey, p. 2642. Cormorant inland in Somerset, p. 2810. Marsh Harrier in Somerset, p. 2866. Food of the Wood Pigeon, p. 2868.

1872.—Hen Harrier, Norfolk Plover, and Red-breasted Merganser in Somerset, p. 2911. Ornithological Notes from Guernsey, p. 2921. White's Thrush, p. 2941. Early arrival of the Chiffchaff, p. 3064. Notes on the breeding in confinement of the Pochard, Pink-footed Goose, and Wigeon, p. 3243.

1873.—Pinkfooted Goose, p. 3413. Guillemot moulting its quill-feathers, p. 3454. Ornithological notes from Somerset, p. 3624.

1874.—Ring Ouzel, &c., at Exmouth, p. 3831. Ornithological notes from Somerset, p. 3868. The Black Gannet, p. 4239.

1875.—Ornithological notes from Somerset, p. 4332. Albino and other variations of plumage in Birds, p. 4422. Marsh Warbler, *Acrocephalus palustris*, in Somerset, p. 4713.

1876.—Ornithological notes from Guernsey, p. 4780. Black-throated Diver in Somerset, p. 4804. Ornithological notes from Guernsey and other of the Channel Islands, p. 5024.

1877.—Purple Gallinule in Somerset, p. 227. Little Bittern in Guernsey, p. 259.

1878.—Pied Flycatcher and Black Redstart in Somerset, p. 27. Curious nesting freak of the Common Buzzard, p. 339.

1880.—Pomatorhine Skuas in Somerset, p. 19. Long-eared Owls in Guernsey, p. 220. Green Woodpecker in Somerset, p. 221. Red-legged Partridge in Guernsey, p. 397.

1881.—The Marten in North Wales, p. 419. Remarks on the breeding of certain Water-fowl in confinement, p. 446.

1882.—Iceland Gull and Great Grey Shrike in Somerset, p. 71. Buffon's Skua in the Channel Islands, p. 188. Marsh Harrier in Herm, p. 267. Manx Shearwater in Somerset, 433. Black-winged or Japanned Pea-fowl, p. 462.

1883.—Bonaparte's Gull at St. Leonards-on-Sea, p. 120. Hybrid between Lesser Black-backed and Herring Gulls, p. 174. Heronries in Somersetshire, p. 221. Erroneous report of Demoiselle Crane in Somerset, p. 333. American Bittern in Pembrokeshire, p. 341. Wayside notes during a West Country drive, p. 448.

1884.—Fulmar Petrel in Somerset, p. 145. Great Grey Shrike and Snow Bunting in Somersetshire, p. 149.

1885.—Wayside notes during a West Country drive, p. 3. Ornithological notes from Somerset, pp. 65, 233. Red Grouse in Somerset and Wilts, p. 147. Little Gull in Guernsey, p. 262.

1886.—A white Fox in Somerset, p. 104. Changes of plumage in the Kestrel, 110.

1888.—Additions to the list of Somersetshire Birds, p. 174. Lesser White-fronted Goose in Somerset, p. 228. Pallas's Sand Grouse in Somerset, p. 266. Pallas's Sand Grouse in Guernsey, 266.

1889.—Gadwall in Somerset, p. 149.

In addition to this list may be noticed Mr. Smith's occasional communications to 'The Field' and to 'Science Gossip,' though some of these were merely duplicates or reprints from 'The Zoologist.' His remarks on the occurrence of the Marsh Warbler, *Acrocephalus palustris*, as a summer visitor to Somersetshire (Zool. 1875, p. 4713), and his observations on the change of plumage in certain water-fowl and sea-gulls kept by him in a state of complete freedom, though pinioned, on a pool before his house, deserve to be especially referred to (Zool. 1881, p. 446).

Having visited him in his Somersetshire home, and enjoyed many a pleasant day's shooting with him amongst the turnips and stubble-fields of Bishop's Lydeard, and the attractive sandhills of Braunton Burrows, in North Devon, we can testify to his keen powers of observation, as well as to his knowledge and experience as a sportsman. His native Red-deer were a special source of delight to him, not only during the hunting season, when he frequently followed the celebrated Devon and Somerset pack, but at other times of the year, when he quietly sought them out for the purpose of observing, while unobserved, their actions in their wild haunts. We look back with pleasure, not unmingled with regret, to our rides with him on horseback over the Quantocks for the purpose of getting near a stag or hind, and admiring it, in all its beauty of unrestrained freedom, amid surroundings eminently suited to its wild nature.

It is sad to think that these days can never return, and that another good friend and true has passed away.

Mr. Cecil Smith enjoyed the respect of all who knew him in his own neighbourhood, where for many years he had been a magistrate, and was well known (even to many perhaps who had never met him) as an enthusiastic member of the British Ornithologists' Union, and a Fellow of the Zoological Society.

His wife predeceased him by some years, but he leaves several daughters, who shared in an unusual degree their father's tastes and pursuits, and a son, Cecil, who succeeds to the paternal acres in Somersetshire.

NOTES AND QUERIES.

MAMMALIA.

Grey Seal on the Norfolk Coast.—On September 16th, at a neighbouring fair, I came across a travelling show which professed to contain a strange sea-monster captured off the Norfolk coast by one of the Lynn boats. Expecting to find a Common Seal I went in, but saw, instead, a Seal which was strange to me. From a description and very rough sketch, which I forwarded the same day to Mr. Southwell, that gentleman suggested that it might be an example of the Grey Seal, *Halichœrus gryphus*, and this it doubtless is. It was caught in a net, about four months ago, off the Norfolk coast, near Wells. The colour is dull grey, with darker markings; length about five feet; weight (the owner tells me) about ten stone; it has a beard, or whiskers, about three inches in length. The sex I do not know; the owner believes it to be a male. It seems quite untamed, and shows its dislike to being handled by uttering a sound which I can only compare to the roar of a lion when hungry or enraged. Its eyes are rather large, with linear pupils (the sun was shining brightly when I saw it), and their expression very unlike that of the mild, dog-like, eyes of the Common Seal; in fact, if I ever saw an "evil eye" in any animal, this Seal possessed it. The figure of the Grey Seal in Bell's 'British Quadrupeds' gives a fair idea of the creature; in that work, also, the Grey Seal is described as "scarcely susceptible of domestication." Mr. Southwell has kindly pointed out to me that "the most reliable and striking feature in the external appearance of the Grey Seal is, perhaps, the length of the nails on the flippers." The owner of this example showed me where he had shortened the long nails on the hind flippers to prevent them from injuring the skin. The beast seemed to be in perfect health, and I should be glad to hear of its being transferred to some collection where its existence would be happier than in the box it now occupies. Probably the Grey Seal occurs in the Wash from time to time without being identified. In my diary for 1888 there is a note that, one day in August of that year, when rowing off Hunstanton, I "saw a very large Seal not far off," which may or may not have been of this species. — Julian G. Tuck (Tostock Rectory, Bury St. Edmunds).

BIRDS.

Migration of the Nutcracker.—The 'Report on the Migration of Birds in Denmark for 1887,' compiled by Herr Olaf Winge (Ornis, vol. vi.), contains some interesting notes on the migration of the Nutcracker, *Nucifraga caryocatactes*, Linn., in the autumn of that year, on the east and west coasts of Sjœlland. The movement appears to have commenced on Sept 10th, when one was shot at Storehedinge, near the Stevns lighthouse. This light is placed on the extreme easterly point of the island facing the Baltic. From this date the Report says, "They were common, and many were shot in different places; at the close of September they diminished in number, but at the middle of October many again arrived; at the close of the month they quite disappeared; the last was shot on October 29th. Undoubtedly several hundreds have passed over: one day, in the course of half an hour, an observer watched thirty move away in parties; mostly two or three kept together; but parties of from six to ten were also seen. All the specimens examined were of the *leptorhynchus* form, but one *pachyrhynchus*." At Vordingborg, near the extreme south of Sjœlland, there was a large passage in the later part of September and the beginning of October. At Refsnäs, on the extreme westerly point of the island facing the Great Belt, from the middle of September to the middle of October, large flocks of Nutcrackers were observed. All these flights appear to have been on passage from north to south along both the east and west coasts, presumably coming from the southern parts of Sweden. A flock of seven or eight were seen at Rönne, Bornholm, on Sept. 20th, and four were shot, all *leptorhynchus*. They were seen in large numbers on Bornholm at the close of September and in the beginning of October.—JOHN CORDEAUX (Great Cotes, Ulceby, Lincolnshire).

Habits of the Nutcracker. — The latter part of Mr. Wiglesworth's letter (p. 388), on the nesting habits of the Nutcracker, *Nucifraga caryocatactes*, in which it is stated that this bird nests exclusively on the spruce fir, is interesting to me as being in decided contrast to its habits in summer and autumn, when only I have seen it. It is then found almost exclusively in the woods of Arolla pine, *Pinus cembra*, under which the ground is covered with half-picked cones, and from which it derives its Swiss rural name, "Arolla Vögel." It is common at the head of the Visp Thal, near Zermatt, where the spruce and Arolla woods grow in close proximity, but not much intermixed, and it was in the latter trees only that I learnt to expect it; indeed so much did I look for the bird where I found this tree, that, seeing in the distance a battered *Pinus cembra*, on the road to the Wengern Alp, I said to my daughters who were with me, "Now we shall see the *Arolla Vögel*," and sure enough, as we drew near, out flew half-a-dozen. My friend, the late Mons. Emil Boss, used to shoot a good many in the winter, and told me that the crop was always full of Arolla seed. He said the birds were very good eating. Were I forty years younger I should be tempted to make a spring visit to Zermatt, on purpose to investigate the habits of the Nutcracker in the nesting-season; perhaps one of your younger readers will take the hint. True the hotels are then closed; but I have no doubt the proprietor, Mr. Seiler, who lives at Brieg in the winter, would do what he could to provide accommodation.—H. T. Frere (Burston Rectory, Diss, Norfolk).

The Great Skua on Foula.—I have been twice in the Island of Foula this year,—for five days in May, and, again, for three weeks in August,—and I am satisfied that the Great Skua has increased in numbers, and that there are now from 80 to 100 pairs that make the hills their home. But alas! though the birds have prospered in the past, they will do so no longer, unless some means are taken to stop the wholesale egg-taking and the slaughter of birds, which for some reason or another has been carried on this year on a scale far exceeding previous seasons. It is not to be wondered at that people to whom every penny is of consequence should take eggs that lie absolutely under their feet, when they can sell them readily by the dozen to dealers, with whom the parcel-post puts them in easy communication; but the thing must be stopped if only thirty-five or forty young birds are allowed to be hatched in a season, and those the smallest and weakest of their race, the outcome of the third laying of one egg, which is the Bonxie's last effort to perpetuate her race, when the four eggs of the first and second laying have been ruthlessly taken from her. This robbery, however, would be stopped if the natives could be assured that they had really no right to take the eggs. There are only some half-a-dozen of them who do it habitually, and if one or two of these could be caught and fined the trade in eggs would come to an end. But if the man who takes an egg is bad, what is to be said of the man who shoots the parent birds in the breeding-season? The excursionist who comes to the island for a few hours, with fifty or sixty others, does no harm. If he brings a gun at all he is watched and followed, and he would certainly not be allowed to shoot anything so precious as a Bonxie; therefore the story that a dozen carcases were found after the steamer had been at the island is a statement based on no particle of truth; but there has been this year, between my two visits, a party of men who, in the close-time, shot day and night, week-day and Sunday, and either killed very many more than the two birds they have owned to, or else were past-masters in the art of disturbing other people without getting what they were trying for. Men who shoot a single specimen for a particular purpose could be forgiven; men who pop away at defenceless birds, and kill them almost literally on their nests, ought to be told that neither gentlemen, sportsmen, nor naturalists can regard their deeds with anything but the strongest dispproval.—Adelaide L. Traill (23, Duke Street, Edinburgh).

The Great Skua on Foula.—Mr. Barrington (p. 391) repeats "that only two Great Skuas were shot, or fired at, in order to verify a very interesting fact apparently unrecorded by naturalists,"—by which, I presume, he means his discovery of the colour of the sexes, and that of a dark and a light bird being apparently always paired. So far so far well; but I am of opinion that in order to prove anything further, the sacrifice of many more Skuas would be necessary,—a course all true naturalists must deprecate, and certainly avoid doing, at least in Great Britain. As to what Mr. Barrington says, "As to the force of example, it is valueless in Foula," Mr. Barrington should remember there is no law at present against taking eggs, but there is a law against shooting birds, and I know myself that there is a wholesome fear, amongst the people in the island, of breaking this law. But if gentlemen go there, and break the law as regards a rare British bird, they set a most undesirable example to the people. I myself had permission to kill three Great Skuas, but refused at once to set any such example to the natives, and told Mr. Scott himself, and his agents, that I would not do anything of the kind; and no gun was taken ashore by any of our party, either on Sunday or week-days. I perfectly agree with Mr. Harold Raeburn, "that if one wishes to escape blame, in a case of this kind, the only plan is not to infringe the Wild Birds Protection Act." I cannot bring myself entirely to agree with a suggestion of raising a fund to practically bribe the natives, not to take the eggs. Whatever the difficulties may have been in securing a special Act of Parliament, in the case of the Sand Grouse, I feel convinced that to protect both the birds and the eggs of the Great Skua by law is the only practical and permanent way of securing the desired result; and the head man of the island, or the proprietor himself, might quite well be held responsible if the law were then infringed. I quite agree with Mr. Barrington that gamekeepering, unless strongly backed by law, would be the most troublesome and expensive way of setting about preservation of the Skuas, knowing, as I do, and as a Scotchman under Scottish law, how difficult it often is to obtain convictions, even under the Game Acts, in several counties of Scotland. In conclusion, I beg to state that I have, in my collection here, a Great Skua, shot and sexed in Faröe, by Col. Feilden,—a light-coloured bird, marked on label "♂." Shooting Great Skuas, therefore, in future, can serve little useful purpose, except to augment the collections of private individuals or museums, and, if this must be done, it should at least be effected where there is no law against it; and it is also my opinion that there are enough specimens already in museums and in private collections to accentuate and prove Mr. Barrington's discovery, and even to go further.—J. A. Harvie Brown (Dunipace, Larbert).

Greater Spotted Woodpecker eating young Titmice.—On June 18th Mr. Roberts, taxidermist at Norwich, received from Haileybury, in Hertfordshire, a Greater Spotted Woodpecker,—an immature bird, apparently of the year,—which contained the remains of two or more young birds; one beak and three legs were nearly intact, and in the opinion of Mr. T. Southwell they were legs of a Titmouse, probably the Blue Titmouse, either taken out of a nest or when leaving it.—J. H. GURNEY (Keswick, Norwich).

Black-throated Diver breeding in Norway.—In June last I observed, on a lake in Norway, a pair of Black-throated Divers with three young ones. The parents left them on seeing me, but returned in about ten minutes and swam off with them. I observed them very distinctly through a binocular. The nest was on an island, close to the water, but the fragments of egg-shells were too small to show the number of eggs, though in another case I found two nearly complete shells from which the young had escaped.—J. P. THOMASSON (Woodside, Bolton).

Number of Eggs of the Cormorant and Shag.—Speaking from my own experience in Ireland, in reply to the query of Mr. Raeburn, I have over and over again taken clutches of Shag with four eggs (never more), though three is the usual number. I have found eggs of this species in the first stage of incubation as early as the 15th April, and from having found young in several nests on the Saltees on the 14th May (not the 11th, as stated in Mr. Saunders' 'Manual'), I believe that Shags frequently lay here in the middle of April. The Cormorant is decidedly the commoner species on the Waterford coast, though the Shag—common as it is here—is far more abundant on the west coast of Ireland. I have found clutches of four Cormorants' eggs, in different years, on the 15th and 16th of April, though these were early instances. The usual number of eggs is four, three being certainly exceptional here; but I have taken a good many clutches of five, though I have never met with six in one nest. Mr. Raeburn does not state the dates when he found either species laying in Shetland, nor whether the Cormorants' clutches of three eggs were fresh or incubated. If I saw Cormorants' nests here with three eggs in each, I should conclude that the clutches were incomplete, unless I found them incubated.—R. J. USSHER (Cappagh, Co. Waterford).

Number of Eggs laid by the Shag.—In reply to Mr. Raeburn's question (p. 388), whether any of your readers have met with more than three eggs in a nest of the Shag, *Phalacrocorax cristatus*, I beg to inform you that I have often found four, in nests of both the Cormorant and Shag, off the west coast of Scotland. The number of eggs laid by birds is probably affected by the food supply. I know a district in Wales where the Tawny Owl rarely lays more than two eggs. At the well-known Black-headed Gullery at Scoulton the keeper once told me that "the take" had fallen from 1000 to 300 eggs a week, in consequence of the drought which prevailed at the time.—J. YOUNG (64, Hereford Road, W.).

Sooty Shearwater at Hastings.—Through the kindness of Mr. Thos. Parkin, of Halton, near Hastings, I am able to record the capture in that neighbourhood, on the 3rd of September last, of an adult male Sooty

Shearwater, *Puffinus griseus* (Gmelin). It has been well preserved by Mr. Bristow, of St. Leonard's-on-Sea, and is now in my collection.—William Borrer (Cowfold, near Horsham).

Jackdaw killing Rat.—"During a stay at Northwich, Cheshire, in the spring of this year," my brother wrote me, "while superintending . . . . my attention was drawn, by Ashworth, an ex-gamekeeper, to the unusual behaviour of a Daw, which was seen to suddenly swoop down by the side of the river Weaver, and immediately rise again, with a full-grown Water Rat in its claws, to a height of about forty feet, when the rat was dropped. This the Jackdaw repeated seven or eight times, until the rat's life was extinct; then, giving a triumphant 'caw,' he picked the animal up in his beak, and made the best of his way to a neighbouring steeple. . . . . The method resorted to in this case is exactly similar to the plan they have, on the sea-coast, of opening mollusks."—C. E. Stott (Lostock, Bolton-le-Moors).

Extraordinary abundance of the Corn Crake near Waterford.—In counties Dublin and Wicklow, both this year and last, there has been a very noticeable scarcity of Corn Crakes, and many persons have remarked it to me; whereas near Waterford these birds were so abundant this summer that during the cutting of a meadow of perhaps four acres a hundred or more were driven out, the last perch or so that was left uncut in the centre of the field being literally alive with them. It was a curious sight to watch the Crakes rising in twos and threes from the ever-diminishing patch of grass, or running, mouse-like, among the swathes of fresh-cut hay, while the hapless young were destroyed in dozens by the machine.—Allan Ellison (Trinity College, Dublin).

Increase of the Redstart in West Scotland.—When at Ballachulish for a short time in August last, I was much struck by the extraordinary numbers of Redstarts. The birch-woods on the sides of some of the hills were full of them, whereas I did not see a single bird of this species when at the same place five years ago, although there were, no doubt, a few pairs in the district. Unless the increase is merely local, it will be strange if this bird does not very shortly make its appearance in the Hebrides.—Arthur H. Macpherson.

Nesting Habits of the Dipper.—Your correspondents will observe that when I used the words "never in a tree," speaking of the position of the Dipper's nest (p. 314), I referred merely to the breeding habits of this bird as observed by myself in the Co. Wicklow, where I have never heard of a nest so situated. The position of some of the nests, described as having been found in trees, bears a strong resemblance to the ordinary situation in a bank or under a bridge. Mr. Goldsmith (p. 352) describes a nest against the trunk of a willow tree, supported by the projecting stump of a branch;

and Mr. Blagg (p. 393) mentions another somewhat similarly placed on the trunk of an ash. Both of these remind one of the nests placed on stones projecting from the masonry of bridges, as described on page 314. The position of the nest on the post and rail is exceedingly like that of some of those situated in trees. It is amusing to notice how young Dippers, still unable to fly, will if disturbed from their nest flutter into the water and escape by floating down the stream.—Allan Ellison (Trinity College, Dublin).

Blue-throated Warbler at Sheerness. — On Sept. 17th I had the pleasure of seeing one of these pretty little birds as it was hopping about among some masses of *Atriplex* and *Chenopodium* growing at the foot of the sea-bank beyond Marine Town, Sheerness. It was quite tame and allowed me to look at it for a considerable time as it ran in and out among the plants, occasionally snapping at some insect or flitting off to a stone on the adjacent shingly beach, where it sat and watched for a few minutes, and then returned to the *Atriplex*, and went on with its search for flies, &c. It appeared to be a young bird in moult, for I could only see a few blue feathers on its throat, and there was no trace of a white or reddish spot.—Gervase F. Mathew (H.M.S. 'Tyne,' Gibraltar).

Scarcity of the Spotted Flycatcher.—With respect to the notes which have recently appeared under this heading (pp. 352, 394), and the Editor's comment thereon, I can state that in the counties Dublin and Wicklow, Spotted Flycatchers did not seem less plentiful this year than usual. On May 24th, during an excursion of the Dublin Naturalists' Field Club, we observed quite a flock of these birds among the trees at Poulaphuca Waterfall, near Blessington, Co. Wicklow. On August 13th, near Shillelagh, I observed perhaps a score of Flycatchers, some of them young, still fed by their parents, in company with Creepers and several species of Tits, collected in a group of alders on a river-bank. In the neighbourhood of Waterford also I observed no scarcity of Flycatchers.—Allan Ellison (Trinity College, Dublin).

Kingfisher flying into a House. — One often reads of birds flying against glass, and sometimes into a room, and possibly the following occurrence may be thought worthy of a note :—Early on the morning of September 7th a Kingfisher flew into the dining-room of an old farm-house in a neighbouring village. The window faces the south, and is shadowed by a wing of the house which runs to the east, so that the room is not a light one, and the window does not show out at all brightly from the outside. Is it possible the bird was pursued by a Hawk? or what could have induced it to fly into the room? — Henry F. Allison (Beckingham, Newark). [The bird was probably deceived by the reflection of trees and shrubs in the window-panes.—Ed.]

SCIENTIFIC SOCIETIES.

Entomological Society of London.

October 1, 1890.—The Right Hon. Lord Walsingham, M.A., F.R.S., President, in the chair.

The Rev. Dr. Walker exhibited, and read notes on, a long and varied series of forms of *Crymodes exulis*, collected in June and July last in Iceland. In reply to a question by Lord Walsingham as to whether all the forms referred by Dr. Walker to *Crymodes exulis* had been identified as belonging to that species, Mr. Kirby said the species was a very variable one, and that several forms had been described from Labrador and Greenland. Mr. South stated that he had examined Dr. Walker's specimens, and he believed that most of the forms exhibited had been described by Dr. Staudinger in his papers on the Entomology of Iceland.

Dr. Sharp exhibited a specimen of *Ornithomyia avicularia*, L., taken near Dartford, to which there were firmly adhering—apparently by their mandibles—several specimens of a mallophagous insect. He also exhibited some specimens of fragile Diptera, Neuroptera, and Lepidoptera, to show that the terminal segments in both sexes might be dissected off and mounted separately without the structures suffering from shrivelling or distortion. Dr. Sharp also said, in reference to the statement made by him, on p. 421 of his paper recently published in the 'Transactions' of the Society, as to the number of the segments of the abdomen, and the position of the genital orifice in the female of Hemiptera-Heteroptera, that he had recently been making some dissections, and found that the structures externally were difficult of comprehension, and he now thought that the statement he had made from observation, without dissection, might prove to be erroneous.

Mr. G. F. Hampson exhibited and remarked on a series of *Erebia melas*, taken in July last, in the Austrian Alps (Dolomites), by Mrs. Nicholls. Captain Elwes observed that this species was abundant in the Pyrenees; but although he had frequently suggested to Dr. Staudinger and other European lepidopterists that it probably occurred in the Swiss or Austrian Alps, he had never been able to obtain specimens from any part of Europe except the Pyrenees; and that it had been left to an English lady to be the first to take a species of *Erebia* new to these Alps. He added that the species only frequented very steep and stony slopes on the mountains, so that its capture was attended with difficulty.

Mr. M'Lachlan exhibited specimens of an extraordinary Neuropterous larva found by Mr. B. G. Nevinson in tombs at Cairo. He said that this larva had been assigned to the genus *Nemoptera* by Schaum, who described it as having been found in tombs in Egypt (Berl. Ent. Zeitschrift, vol. i.);

and Roux had previously (Ann. Sci. Nat. t. xxviii) described and figured it as an abnormal apterous hexapod under the name of *Necrophilus arenarius.* Mr. Nevinson supplemented these remarks with an account of his capture of the specimens in the Egyptian tombs.

Mr. G. T. Baker exhibited a series of forms of species of the genus *Boarmia* from Madeira; and also a series of melanic varieties of *Gracilaria syringella* from the neighbourhood of Birmingham.

Mr. W. F. H. Blandford exhibited and remarked on a series of specimens of *Dermestes vulpinus,* which had been doing much damage to the roofs of certain soap-works in the neighbourhood of London, where it had no doubt been introduced with bones and fat.

Mr. R. W. Lloyd exhibited a specimen of *Carabus catenulatus,* in which the femur of the right foreleg was curiously dilated and toothed. He stated that he took the specimen at Oxshott, Surrey, on the 27th September last.

The Rev. C. F. Thornewill exhibited a black variety of the male of *Argynnis aglaia,* taken by himself in July last on Cannock Chase; also a number of living larvæ of a species of *Eupithecia* feeding on the flower-heads of *Tanacetum vulgare* collected in a limestone quarry in Leicestershire. He expressed some doubt as to the identity of the species, but the general opinion was that the larvæ were only those of *Eupithecia absynthiata.*

Mr. G. Bryant sent for exhibition a variety of the larva of *Trichiura cratægi.*

Mr. C. G. Barrett exhibited a specimen of *Plusia moneta,* Fabr., a species new to Britain, taken at Reading by Mr. W. Holland in July last. It was stated that the first specimen of this species captured in England had been taken at Dover last June, and is now in the collection of Mr. Sydney Webb, of that town. Mr. Kirby said that Mynheer Snellen had reported this species as being unusually common in Holland a few years ago.

Mr. W. Dannatt exhibited a variety of *Papilio hectorides,* female, from Paraguay. Mr. Osbert Salvin said he believed he had seen this form before.

Mr. C. J. Gahan exhibited a curious little larva-like creature, found by Mr. Green in a rapid mountain stream in Ceylon, and observed that there was some doubt as to its true position in the animal kingdom. It was made up of six distinct segments, each of which bore a single pair of laterally directed processes or unjointed appendages. Mr. Hampson remarked that the appendages were very suggestive of the parapodia of certain chætopod worms, but that all the known polychætous worms were marine. Lord Walsingham and Mr. M'Lachlan expressed an opinion that the animal was of myriopodous affinities, and was not the larva of an insect.

Mr. Baker read a paper entitled "Notes on the genitalia of a gynandromorphous *Erania hippia.*"—H. Goss, *Hon. Sec.*

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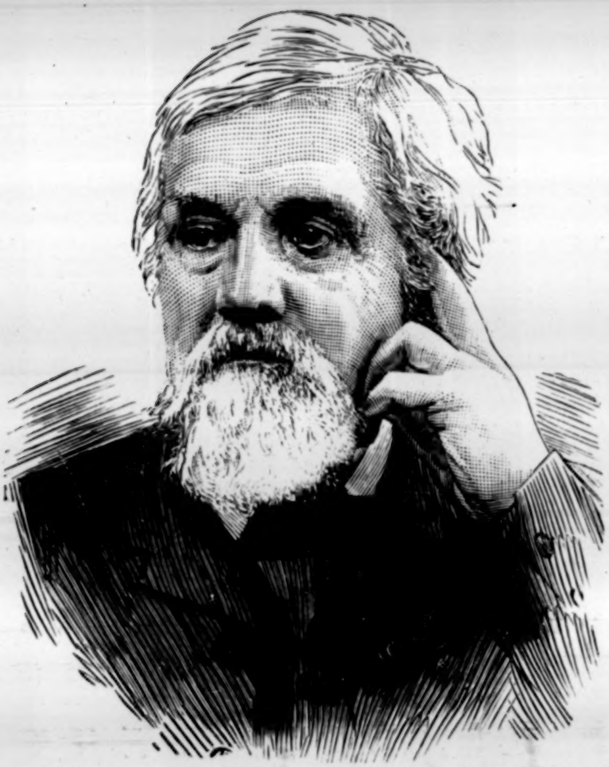

JOHN HANCOCK.

Born, 1806. Died, 1890.